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AT&T

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June 14, 2001

HAND DELIVERY
Magalie Roman Salas
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: Notice of Ex Parte Presentation
Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems

CC Docket No. 94-102

Dear Ms. Salas:

On Wednesday, June 13, 2001, Karl Korsmo, Lori Buerger, Alan McDonald, and John Snapp of AT&T Wireless Services, Inc., Stephen Meer of Intrado (formerly SCC Communications), and the undersigned met with Kris Monteith, Blaise Scinto, Dan Grosh, Pat Forster, Jennifer Tomchin and Marty Liebman of the Wireless Telecommunications Bureau to discuss AT&T Wireless's proposed MNLS technology for Phase II compliance on its TDMA air interface. A copy of the AT&T Wireless E-9-1-1 Phase II MNLS Solution hand-out distributed at the meeting is attached.

Pursuant to sections 1.1206(b)(1) and 1.1206(b)(2) of the Commission's rules, an original and one copy of this letter and attachment are being filed with the Office of the Secretary. Copies are also being served on the Commission personnel in the meetings.

Respectfully submitted,

Douglas I. Brandon BTB

Douglas I. Brandon

cc: Kris Monteith
Blaise Scinto
Dan Grosh
Pat Forster
Jennifer Tomchin
Marty Liebman

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AT&T Wireless
E9-1-1 Phase II
MNLS Solution

AT&T Wireless

- Doug Brandon – VP, Ext. Affs.
- Karl Korsmo – VP, Ext. Affs.
- Lori Buerger – Director, Ext. Affs.
- Alan MacDonald – Director, RF Strategy, Technology Development Group
- John Snapp – Consultant, former Vice-chair TR45.2 AHES
- Stephen Meer – CTO, Intrado (formerly SCC Communications)

Agenda

- Overview of MNLS
- MNLS advantages to Public Safety
- MNLS trials
- Parallels to RF Fingerprint
- Paths to improved MNLS accuracy
- Keys to success
- Intrado's role and perspective

Mobile-assisted Network Location System (MNLS)

MNLS is a RF pattern-matching location technique that utilizes existing functionality of the TDMA system

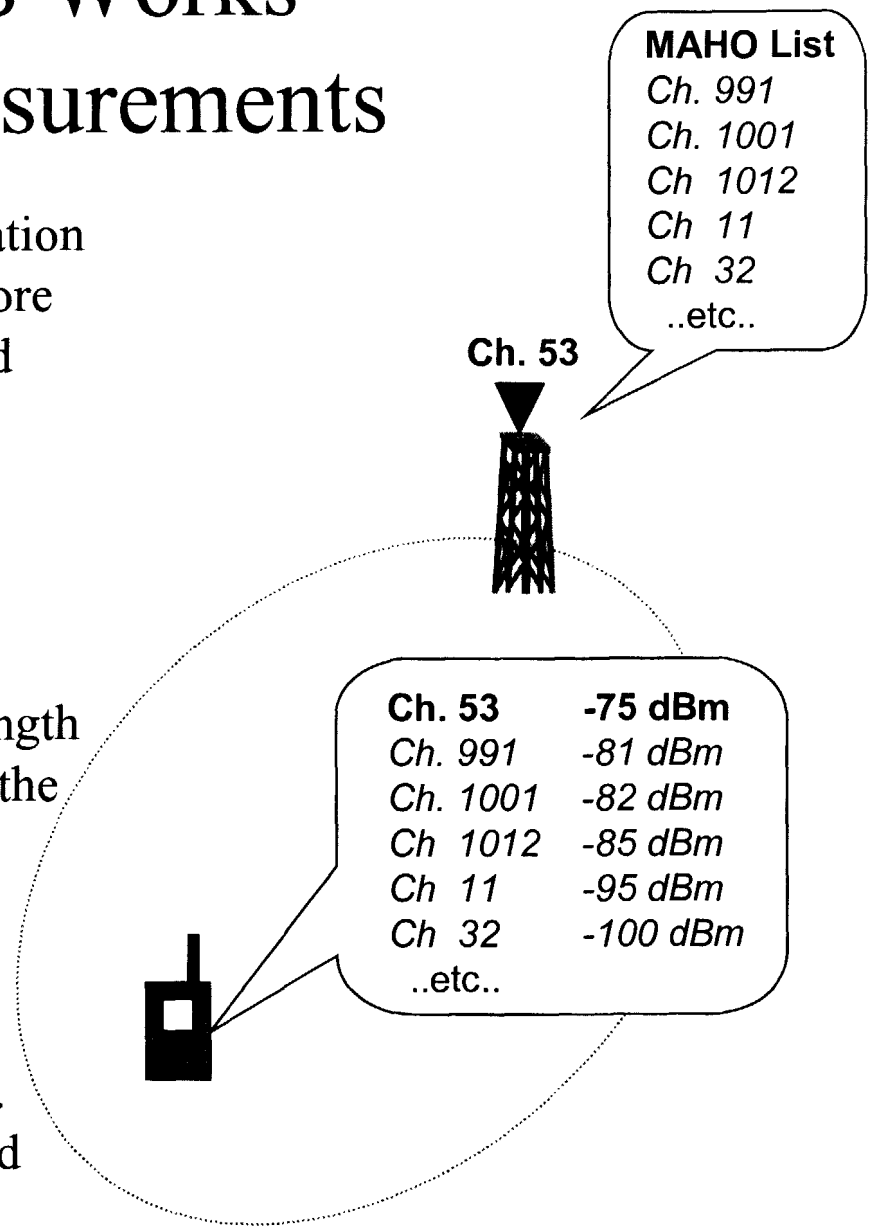
•MNLS is a technology that utilizes signal strength measurements made by the handset to determine the location of the mobile while on an emergency call.

• The MNLS matches the RF signal strength reported by the mobile to a stored database of measured and predictive measurements, to calculate the most likely position of the mobile.

•The MNLS requires no handset changes and uses standardized IS-136 "mainstream" functionality (MAHO) which is core to the wireless system.

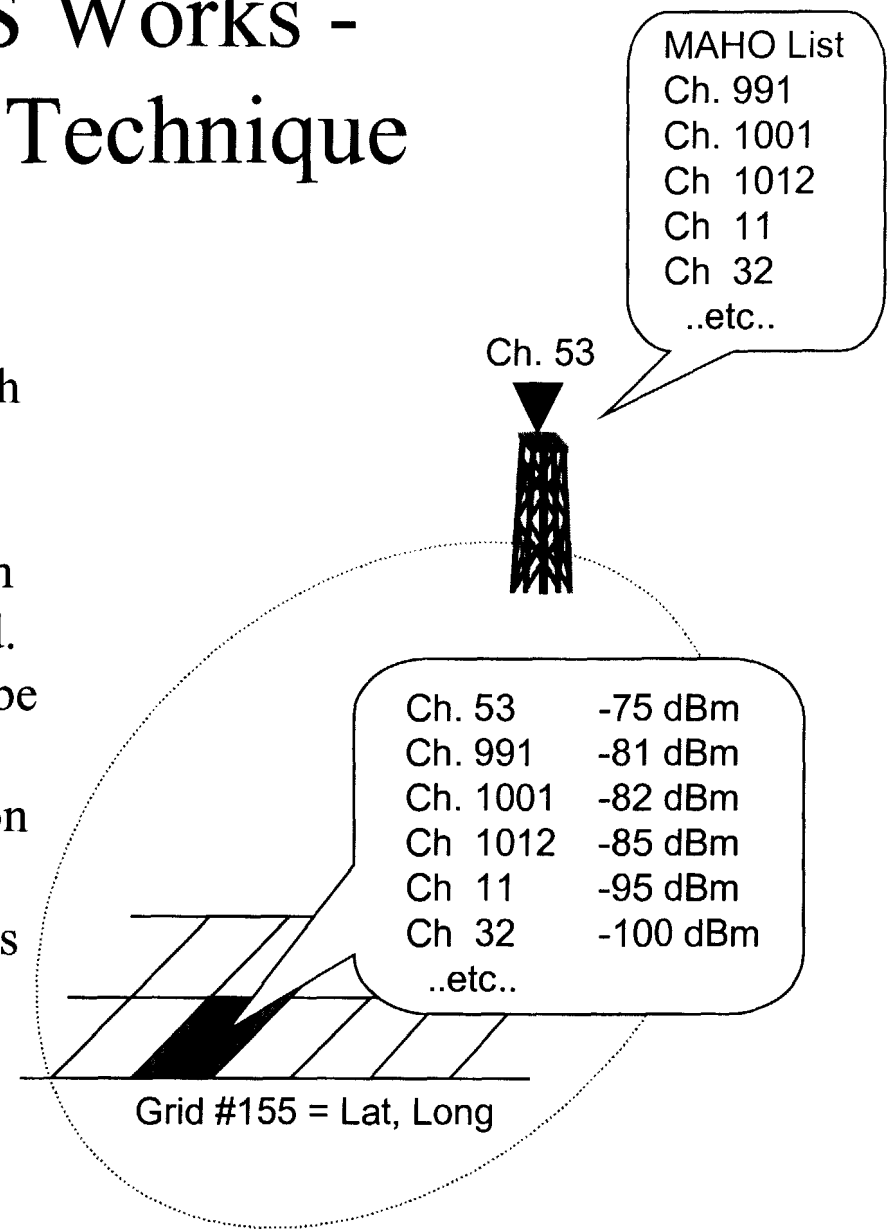
How MNLS Works - MAHO Measurements

1. TDMA asks the mobile to provide information about its current situation to allow for a more efficient handoff process - Mobile Assisted Handoff (MAHO)
2. The MAHO list is comprised of up to 24 neighbor-cell control-channels.
   - MAHO cells are handoff candidates
   -Serving cell broadcasts the MAHO list
1. During calls, the mobile makes signal strength measurements on the serving channel and the MAHO channels
2. The mobile returns these measurements to the MSC continually during the call.
3. The MSC uses these measurements to determine when a cell handoff must occur.
4. MAHO has proven to be very effective and accurate



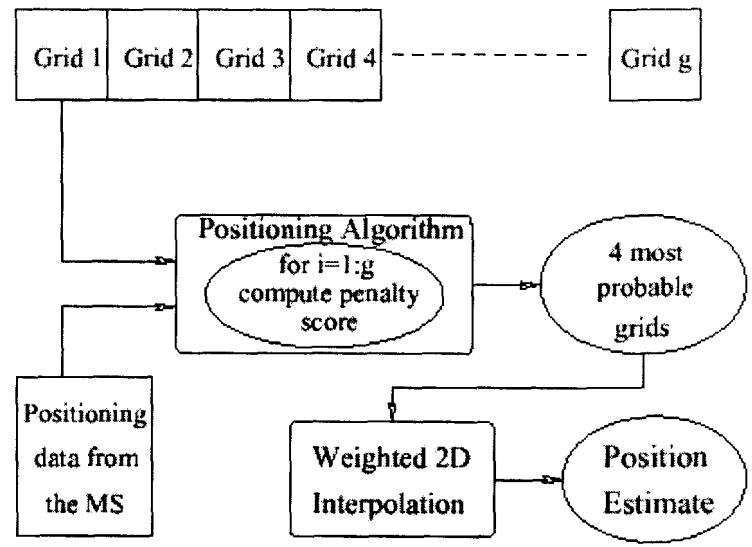
How MNLS Works - System Grid Technique

1. Divide the network into grids for the location database
2. From prediction or measurement data, each grid has an assigned list of channels and signal strengths relationships.
3. The grid channel numbers will be based on the MAHO list of the cell serving that grid.
4. The grid signal strength relationships can be defined in two ways
   (1) Predication -Propagation tool prediction using actual site info.
   (2) Measurement -Drive test measurements with associated location info



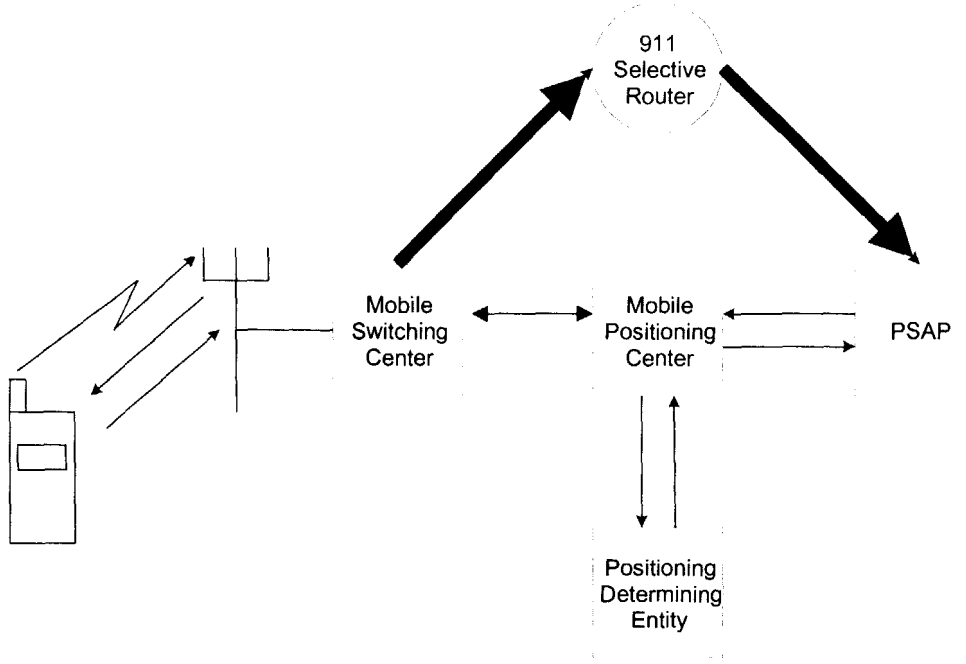
How MNLS Works - Position Calculation

1. During a 911 call, reported MAHO measurements are passed to the MPC/PDE.
2. The MPC/PDE receives the signal strength measurements from the MSC and compares them to a stored grid database.
3. Using MNLS algorithms, the appropriate grid location is selected.
4. The MPC returns this position to the PSAP.



Network Connectivity

- MNLS is fully supported by 911 (J-STD-036) and other wireless standards.
- Allows updated location queries by the PSAP
- Uses E9-1-1 Phase 1 network as the foundation for Phase II with MNLS



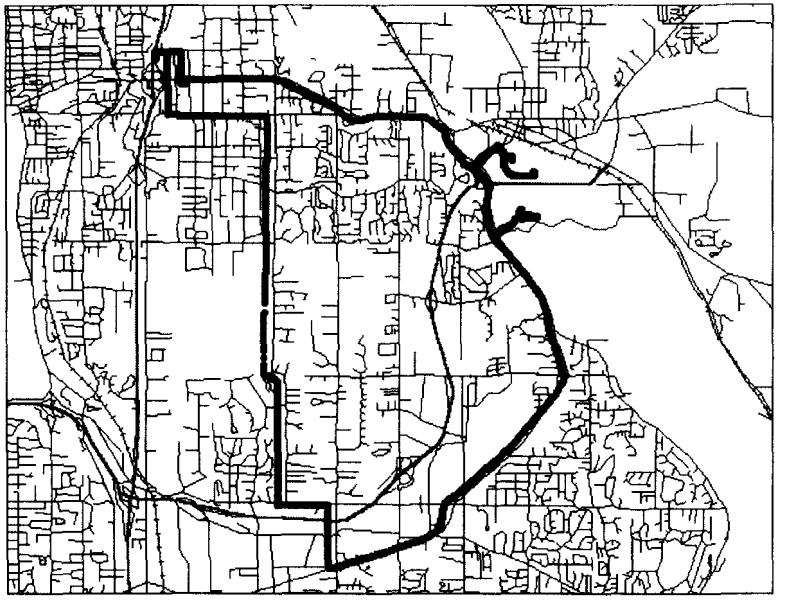
MNLS Advantages for Public Safety

- Superior reliability (due to mainstreaming, with solution integral to overall network operation)
- Swift national deployment, due to ability to implement systemwide, rather than jurisdiction-by-jurisdiction
- Multiple locates ("tracking") can be performed to gain a more accurate location, or monitor movement
- No digital handset replacement or upgrades necessary
- Can perform locates with a single cell site (important for rural areas)
- Based on existing and well known TDMA functionality
- Ubiquitous service to all digital customers (including roamers)
- Consistency with standards: IS-54, IS-136 and J-STD-036
- Use of base station signals (stronger than handset signals) offers advantage in rural areas
- Works for uninitialized phones

Redmond MNLS Trial

- Demonstrated that measured data could be used in combination with predictive data to improve accuracy.

- Proved technology is reliable and robust

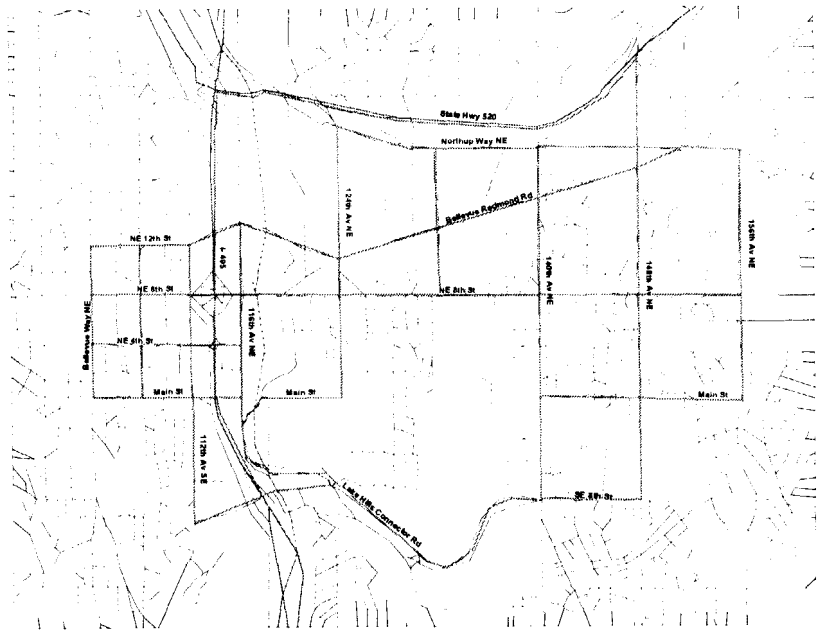


	67%	95%
Drive Test Results	290 meters	606 meters

Bellevue MNLS Trial

- Incorporated all types of serving areas: freeways, urban, suburban, rural

- Includes more than 1,900 locates



	67%	95%
Drive Test Results	304 meters	741 meters

Paths to Improved MNLS Accuracy

Nature of MNLS lends itself to continuous accuracy improvement:

Data Base Improvements

- •Continually increasing use of measured data
- • Improve predictive data through tuning of RF propagation models
- • Automated drive testing tools

Algorithm Improvements

- • New, more intelligent algorithms, (e.g. optimization of sampling)
- • Optimized grid selection techniques (possible use of triangulation versus versus contour-matching)
- • Optimum grid sizing

Keys to Success

- Commitments (contractual) of infrastructure vendors

- Possible future consideration of use of other technologies to improve accuracy, if necessary

- Partnering with the best, most respected 911 expertise available to help make MNLS successful and meet public safety needs

Intrado's Role and Perspective

- AWS' long-time 911 partner
- Commitment to MNLS success
- Advantages to Public Safety of mainstreaming
- Scaleability issues

Discussion